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U.S. BUREAU OF PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 7, 1933.

HAVRE:

The week was generally warm and clear. Field work is nearly completed on the plots. Rye was seeded on the commercial fields. Fallow was duckfooted to prevent blowing during the winter season. Feed is being hauled into the lots for the winter experiments.

Maximum temperature, 83°; minimum, 34°; precipitation, 0.

JUDITH BASIN: (Report for the two weeks ending October 7, 1933.)

Ideal fall weather has prevailed for the past two weeks. The first killing frost occurred September 24. The mild open weather has enabled farmers to complete their seeding and other fall farming operations in time. Winter wheat seeded before September 20 has emerged and is looking good. Some of the late seeded wheat, especially that stubbled in, is in need of moisture. There are some complaints concerning grasshopper damage. Livestock feed conditions continue fair with much of the feed coming from volunteer grain and new growth of alfalfa.

Maximum temperature, 81°; minimum, 22°; precipitation, 0.05 inch.

HUNTLEY:

Typical Indian summer weather has prevailed throughout the week; days have been warm and nights cool with light frosts. Field work has been possible every day. Sorgo, Sudan grass, and soybeans were hauled in and weighed, temporary pasture fences were taken down and stored, and the water tanks and feeders were brought in for repairs and winter housing. Root crops were dug in the dry-land garden, and all vines and other refuse were cleaned from the plot. Winter wheat and rye on the plots are making a fair growth but do not look as thrifty as they should for this time of year. It is reported that the early seeded fall grains are suffering from drought in some localities. Some seeding is still being done on late cultivated land, although the soil is so dry that germination seems impossible until after a rain.

Maximum temperature, 84°; minimum, 20°; precipitation, 0.

SHERIDAN:

Weather conditions continued fair and warm over the entire week. Fields were cleared of any crops remaining there from last week, and plowing of the rotations was completed with the exception of five plots, for which it was necessary to await repairs for the disk plow which was broken. Some grain was cleaned. Maximum temperature, 84°; minimum, 30°; precipitation, 0.

MANDAN:

Agronomy - The past week was dry with some wind. Corn was shredded during the week. Corn on fall plowing did not produce ears. On spring plowing the yield will be near 8 or 10 bushels per acre, and on fallow the yield was 20 bushels per acre. The corn was thoroughly dried out. Corn shredding completed the field work for the season. The total rainfall for September was 0.27 inch, which is one of the lowest on record for September. The shortage for the year to date is nearly five inches, and for the six summer months, the shortage is over five inches.

Maximum temperature, 73°; minimum, 26°; precipitation, 0.

Cooperative Grazing Experiment - The steers were shipped to the Agricultural College at Fargo on October 2. It was necessary to ship them about two weeks earlier than usual because of feed shortage.

Arboriculture - A small amount of tartarian maple and green ash seed has been picked during the week. The removing of dead wood from the various tree plantings is now practically completed. The taking of height measurements of tree growth commenced the latter part of the week. The absence of any precipitation makes it very doubtful whether it will be possible to pull nursery tree stock this fall. It will be impossible to properly plow the trees until sufficient moisture is received.

Horticulture - Cutting out, hauling, and burning dead brush in the breeding blocks occupied most of the week. Considerable dead wood remains to be cut out in these blocks. Growth notes for the season have been taken. The annual growth was generally short this year. Potatoes were dug on October 2 and 3. Better yields were obtained than expected, considering the dry season. Numbers, 42667, 42672, and 43452, put out by the Horticultural Division, were among the highest yielders under test. All three varieties, however, are a little late for this region in some years. They are attractive looking potatoes. C. F. Swingle visited the station October 1, and left on October 3.

BELLE FOURCHE:

Typical Indian summer weather has prevailed throughout the week. Moderate temperatures and clear skies have been favorable to the fall growth of crops and to the performance of field work. Winter wheat is starting to come up on fallow, but the surface soil is too dry on most of the other cultural treatments for fall grain to germinate. Potatoes were harvested late in the week, and the returns were surprisingly good considering the dry weather which prevailed during the season. The average yield was approximately 102 bushels per acre, and 81.2 per cent of the tubers graded No. 1. Maximum temperature, 83°; minimum, 34°; precipitation, 0.

ARCHER:

During the past week the weather was clear but considerably cooler. No frost has occurred at the station this season. The cool weather checked the rapid plant growth. As a result of the hail storm of August 27 and the favorable growing conditions that followed, the Persian lilacs, May Day trees, and some of the apple trees are producing blossoms. Fall cereals seeded about September 1 are in a good condition to enter the winter. The new potato vine growth is beginning to show signs of maturity. Work at the station has consisted of making preparations for moving the old granary and the milk house. Maximum temperature, 71°; minimum, 35°; precipitation, 0.

NORTH PLATTE:

The chief station activities during the week were sorghum harvest, corn shredding, and potato harvest. All D. L. A. corn plots were run through the husker shredder on the 4th and 5th. Yields ranged from 52 pounds of ears per plot on Rotation 42 to 345 pounds on Rotation 28. The average yield of dry shelled corn will probably be between 20 and 25 bushels per acre, or slightly above the long time average. First killing frost occurred on the night of September 30, with a minimum temperature of 28°. This closes a season with 165 days freedom from 32° or lower temperatures. This is 14 days longer than the long time average at the station. Weather during the week has been clear with warm bright days, and with light frosts nearly every night. Precipitation, none. Precipitation for September 2.13 inches, with rain recorded on five days.

AKRON:

A temperature of 34° the night of September 30 marked the first fall frost. This frost did as much damage as a temperature of 30° has ordinarily done the past several falls. The variety bean experiment was threshed, and a start was made on the husking of the rotation corn. Beans yielded about six bushels per acre, and corn thus far husked indicates yields up to 8 or 10 bushels per acre on the rotation block. Winter wheat seeded on the rate and spacing corn project on September 22 has emerged very spottedly. Ground now is too dry to support germination, though the wheat that is emerged seems to be holding very well. Maximum temperature,79°;minimum,34°;precipitation,trace.

COLBY:

The growing season was practically ended by a light killing frost on the morning of October 1. The minimum temperature was 31°. The sorghum crops appear to have been hurt more severely than garden crops in most cases. Most of the leaves of the sorghums have turned whitish and are dry. The lower leaves appear to have been less affected than the upper. There has not been much wind since the freeze, so the leaves are staying on, permitting harvesting without serious loss. Cutting the sorghums and filling silos has been the order of the day since the freeze. On account of the late second growth the sorghums are mostly very immature. Wheat that is up is looking very good. Grasshoppers are still numerous, but have not done much damage here at the station. Maximum temperature, 79°; minimum, 31°; precipitation, 0.30 inch; September precipitation, 0.76 inch.

GARDEN CITY:

Most of the milo on the dry-land project was cut the past week. Sorghums are maturing much faster than was expected a few weeks ago. All row crops were later than usual this season; but the ground carried no reserve supply of moisture, and when the available supply from fall rains was exhausted, the crop matured fast. Soil moisture samples taken on the MC wheat plots on the 2nd showed a surprising small amount of subsoil moisture. The rains in August and September were far above normal, but they came with such rapidity that run-off was more than at first thought. The subsoil below the 20 to 24-inch zone on the continuous cropped plots was as dry as at any time last fall or winter. Wheat is making rapid growth and coming up to excellent stands on most plots. Some trouble has occurred from grasshopper damage. Poison bran has been spread nearly every day the past week. During the last four days there were two rains with very little run-off. They will be a great benefit to all wheat. Some fields that were seeded on poorly prepared seed beds in the past ten days were not sprouted. They now have enough moisture to bring them up and allow the plant to establish sufficient root system to contact lower subsoil moisture.

Maximum temperature, 80°; minimum, 50°; precipitation, 1.39 inches.

HAYS:

Moderate temperature, little wind and continued, dryness describes the weather for the past week. No frost has occurred to date. The weather has been fine for fall work - cutting feed, filling silos, and drilling wheat - but the surface soil is drying out rapidly, so some of the wheat being sown now will need rain for good germination. Wheat sown on the project last week is coming nicely, most of it up to a good stand, but not all. However, it is expected that most of it will come. It is only a week to-day, 7th, since the last of it was seeded. Early seeded fields over the country look green from the road side. However, generally there is not much subsoil moisture. Soil samples being taken this week on the project have been most difficult to collect on account of the dry condition of the subsoil, and one does not have

to go deep to find the dry, hard soil and lots of cracks to lead a soil tube off to difficulties for the operators. Although there has been no frost, the generally dry condition has stopped tree and shrub growth and all other vegetative growth except newly seeded wheat. Leaves are beginning to color and have commenced dropping as they do in late fall.

Maximum temperature, 84°; minimum, 37°; precipitation, 0.03 inch.

TUCUMCARI:

Work of the week included completion of broadcast sorgo harvesting, hauling and threshing beans and cowpeas, picking cotton, harvesting a considerable number of sorghum and corn plots, and fencing wheat and rye plots. Precipitation the past five weeks has totaled only 0.15 inch, and many sorghum plots are beginning to lodge, drying before full maturity. Ranges are excellent, and over most of the county there will be a fair amount of bundle sorghums harvested, although in some neighborhoods very little grain will be produced. Wheat is generally up to good stands, offering good pasture prospects. Maximum temperature, 82°; minimum, 46°; precipitation, 0.11 inch.

DALHART:

Cooler weather during the week followed two showers. These showers gave moisture for the wheat which has emerged but failed to furnish sufficient to permit seeding in the dry sub-soil. Feed crops, on the farms where there are feed crops, are being rapidly harvested. The native grass in the pasture on the station appears now to have been thinned appreciably by the drought. There is practically no vegetation in the pasture.

Maximum temperature, 81°; minimum, 44°; precipitation, 0.70 inch.

BIG SPRING: (Report for the two weeks ending October 7, 1933.)

The weather during the past two weeks has remained dry and for the most part favorable for crop growth. Winter wheat, which was planted early for pasture, needs rain before any appreciable growth will be obtained. The exceptionally warm weather, which has prevailed until the last few days, has been a great help to the late planted feed stuffs. The first norther of the year occurred during the past week, and since then the days have remained much cooler. Station work has consisted mainly of picking cotton, heading milo plots in the rotations, and harvesting grain and forage sorghum varieties in the date variety test. Other work has consisted of cleaning out fence rows and removing old fence material preparatory to building new fences.

Maximum temperature, 94°; minimum, 47°; precipitation, 0.

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REPORT FOR THE WEEK ENDING OCTOBER 14, 1933.

HUNTLEY:

The continued drought is causing some injury to winter wheat which has emerged and is delaying the germination of late planted seed. Farmers report early sown wheat turning brown in places and fear considerable loss of stand unless moisture is received soon. Winter wheat and rye on the plots are making a slow growth but as yet are not showing serious drought injury. Cultivated grasses and alfalfa have made a fair fall growth and would furnish good pasture at the present time. A carload of range lambs has been received at the station, and preparations for starting the winter feeding trials have occupied most of the week. The lambs have been weighed and allotted to the various feed lots and will receive the first of their prescribed rations today, October 14. Maximum temperature, 83°; minimum, 26°; precipitation, 0.

SHERIDAN:

Weather conditions continued mostly fair and mild over the entire week. Fall plowing of the rotations was completed. No further plowing will be attempted under present dry conditions. A little fall grain has emerged where moisture was sufficiently close to the surface to cause germination, but the most of the seed is in dry soil. Aside from plowing, only miscellaneous work, including preparation of corrals and sheep sheds for winter, was accomplished. Maximum temperature, 81°; minimum, 25°; precipitation, 0.01 inch.

MANDAN:

Agronomy - With the exception of one or two windy days, the past week has been very favorable for outdoor work. The temperature dropped to the lowest point for the season on the night of the 11th. The country continues exceptionally dry.

Maximum temperature, 72°; minimum, 16°; precipitation, trace.

Cooperative Grazing Experiment - The following table shows the gains made by the steers during the month of September and for the season. It was necessary to ship the steers at the end of September, as the pastures were nearly all cleaned up. The experiment usually closes near the middle of October. The gains of the steers for September were below normal.

Pasture (acres)	Number steers	Gain per head (pounds)	
		September	135 days
100	10	20.5	316.0
70	10	14.5	307.0
50	10 *	51.5	277.0
30	10 **	6.5	236.5
70 (rotation)	14 ***	29.3	274.3
28 (bromegrass)	10 ****	-6.0	270.5
7 (crested wheatgrass)	4 ****	-5.0	252.5

* On reserve pasture for 10 days. Received 2.5 pounds of cottonseed cake per head daily up to time they were moved.

** On reserve pasture for 60 days.

*** On reserve pasture for 20 days.

**** On reserve pasture for 60 days.

The cottonseed cake was practically all the steers had to eat in the 50-acre pasture for the 20 days in September, as the grass was about cleaned up early in the month. The steers lost 26 pounds per head during the 20 days of September on their pasture. The 100--acre pasture and the 70-acre pasture were grazed as heavily during the 135 days as they were for 150 days in 1926, which was the poorest grazing season previous to this year.

Horticulture - Cutting out dead wood in the breeding blocks was continued throughout the week. Cannas and other tender bedding plants have been dug and stored. In spite of the dry season, there was a normal increase of rhizomes and tubers. The various tree and shrubbery groups on the grounds have been given an extra renovation this fall, all rubbish and young weeds are being removed. A thick stand of asparagus seedlings had appeared in several groups, apparently planted there by birds during the winter months. Fall color of foliage has been much in evidence this season. The fiery red of sumac and currants, the various hues of russet in the ginnala maple, blend or contrast beautifully with the silver-green of poplar and the sere yellow of soft maple. Remaining vegetables were harvested during the week. There was a fair crop of carrots and of beets, but a small one of onions. Late cabbage was almost a total failure. Celery escaped with a few frosted leaves the low temperatures so far recorded.

BELLE FOURCHE:

Clear, warm weather prevailed throughout most of the week. Only one cold, windy day occurred, but below freezing temperatures were recorded on three nights. A light shower was received on October 9. Winter wheat is up on summer fallow and listed land with about 60 per cent and 20 per cent stands, respectively, but not more than a trace of fall grain has emerged on other cultural treatments. E.J.George and I.Dietrich, Northern Great Plains Field Station, have been at the station the past few days supervising the collection of tree seed. Maximum temperature, 81°; minimum, 27°; precipitation, 0.03 inch.

ARCHER:

The weather was mild and dry. The first freezing temperature of the season, 30°, the night of October 11 nipped the edges of the leaves of the more tender plants. Winter cereals have made seasonal growth. Winter rye seeded during early August for fall pasture has a very rank growth. Great care was taken in pasturing the dairy herd on it, still it proved very dangerous in that it caused the animals to bloat very quickly, the effects lasting for several days. Work at the station consisted of pouring the cement for the walls of the basement for the dairy granary. The construction of corrals is in progress. G.H.Starr, Univ.Wyoming, visited the station October 11 for the purpose of looking after potato work.

Maximum temperature, 73°; minimum, 30°; precipitation, 0.

AKRON:

The week has been favorable for completing the experiment-plot threshing. Winter wheat is holding well, though a good rain before winter would be welcome. Bean threshing and potato harvesting have been completed. The threshing of the grain sorghum variety experiment was started this week-end.

Maximum temperature, 80°; minimum, 30°; precipitation, 0.

COLBY:

The weather has been very pleasant with freezes on four mornings. The sorgo, milo, kafir, and feterita plots were all cut this week. None of these crops showed a high percentage of mature grain. The pinto beans were also harvested. Only about a fourth of the pods were mature. The rest were very immature, many being frosted. The beans were harvested with the rotary rod weeder, and the plot was drilled to wheat immediately after the beans were removed. The seed bed was rather dry and hard. In fact, a good rain is needed for all but the summer fallow wheat. Grasshoppers are still numerous and active. Maximum temperature, 82°; minimum, 27°; precipitation, 0.

HAYS:

The weather continues dry but calm, cool, and pleasant. The growing season was suddenly ended by killing frost on the mornings of October 8 and 9. All sorghum crops not harvested were frozen. The leaves have dried to a light green color and are dry enough to shatter and waste. All other feed and hay crops were killed by the frost. The stand of wheat, although not 100 per cent, is good on all early prepared plots. It is spotted on corn stubble ground, streaked on late listed ground, thin on late fall plowing and disking, and no germination has occurred where wheat was stubbled-in on wheat ground or on kafir ground. The surface soil on these plots is absolutely dry. During the week all kafir and milo plots on the project were headed. The stover has been harvested and weighed green. Samples were collected for moisture determinations from which correction factors will be determined and used in calculating dry weight. Maximum temperature, 83°; minimum, 26°.

TUCUMCARI:

The week was characterized by moderately warm, clear weather, with very low wind movement. Crops continue to mature very rapidly, many of the late plots showing drought injury but promising fair yields. Precipitation for the last seven weeks totals 0.15 inch. Work included cotton picking, heading or binding of early grain sorghums, harvesting of forage sorghums, and heading of considerable rotation milo. Visitors included Messrs. Overpeck and Morrow, State College, New Mexico.

Maximum temperature, 84°; minimum, 44°.

DALHART:

The seeding of winter rye for a cover crop on the increase fields and in the tree plantings was started again during the week. It is not believed that there is sufficient moisture to insure germination, but the seeding was continued as the weather permitted. Farmers report that blown spots in fields which have been seeded to wheat are fast showing the lack of moisture, and the wheat seedlings in these areas are dying. Some fall plowing and plowing under of cowpeas and Sudan grass for green manure were done during the week. Pinto beans seeded August 31 are now blooming.

Maximum temperature, 80°; minimum, 40°; precipitation, 0.03 inch.

BIG SPRING:

Two showers totaling 0.54 inch of precipitation have been received during the past two days. This moisture, together with the cool weather which accompanied it, will delay maturity of the late planted feed stuffs somewhat, but it will be very beneficial for wheat that has been planted for pastures. The soil had become so dry that much of the early planted wheat was dying. Station work included heading milo in the rotations and an increase field and harvesting kafir in the rotations and sorghum varieties in the June 1 variety date. A few plots of cotton in the rotations were picked. Wheat was seeded in the orchard, vineyard, and evergreen planting to prevent soil blowing.

Maximum temperature, 90°; minimum, 47°; precipitation, 0.54 inch.

WOODWARD:

The past week has been cloudy with several traces of rain and several temperatures verging on freezing. Owing to continued lack of heavy rainfall, sorghums continue to dry up and much of the acreage on the station has been cut. Winter wheat is making a moderate but healthy growth. Sooner milo planted on some plots the middle of July will make good yields. We have been greatly impressed this year with the value of Sooner milo for late planting.

Work of the week has consisted of harvesting sorghums, cotton, cowpeas, and beans, and collecting seeds for nursery work.

Maximum temperature, 88°; minimum, 33°; precipitation, 0.33 inch.

PENDLETON: (Report for the two weeks ending October 14, 1933.)

Fall plowing of the rotation and fertilizer plots was completed October 12. The soil was very dry, but it turned up crumbly with very few large clods. The rotation corn was harvested this week, with low yields of both grain and stover. The frost of September 30 caught the rotation corn before it was matured. The weather during the first two weeks in October has been ideal with bright, warm days and cool nights. A few farmers have finished seeding their wheat in the dust, but others started and then quit on account of dry conditions. On the station, the wheat seeded in the furrow-drill experiments on October 5 has germinated nicely and should emerge in a few days. It was necessary to put this wheat in about 3 inches deep. If we do not get a good rain within the next ten days, a large part of the fallow in this section will not be seeded until spring. The spring sown wheat has outyielded the fall sown in four of the past five years.

Maximum temperature, 82°; minimum, 28°; precipitation, 0.

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REPORT FOR THE WEEK ENDING OCTOBER 21, 1933.

JUDITH BASIN:

An almost solid week of rain and snow has brought only 0.56 inch precipitation to date. The fall of the last 24 hours was the heaviest of any similar period, the ground now being covered with about 4 inches of snow. The moisture will be of material value to all winter wheat, although the amount is too small to be of lasting benefit to late stubbled-in fields. The cold weather and snow should terminate damage from grasshoppers this year.

Maximum temperature, 66°; minimum, 19°; precipitation, 0.56 inch.

HUNTLEY:

Skies have been cloudy during most of the week, and several light showers were received. Some of this precipitation verged on snow but most of it took the form of a drizzling rain. Hard freezes occurred between showers. This precipitation will be of some benefit to fall grains, although the penetration of the moisture into the soil was not very deep. The abrupt change in the weather has hastened the fall of leaves, until at present the Chinese elm and Silver Leaf poplar are about the only species of trees that have retained their foliage. Many of the shrubs on the station grounds are still green, however, or are just beginning to turn color.

Maximum temperature, 74°; minimum, 22°; precipitation, 0.62 inch.

SHERIDAN:

Weather conditions were partly cloudy and unsettled, with three light showers, and much cooler than at any time during the current season. Moisture has penetrated to a depth of from 2 to 3 inches on stubble land and probably will be sufficient to cause fall seeded grain to germinate. The ground appears to be loosened up enough from the rain so that a fair job of plowing may now be possible with a disk plow, and with favorable weather more plowing will now be attempted. Only miscellaneous work was accomplished during the week with the regular station labor.

Maximum temperature, 72°; minimum, 24°; precipitation, 0.83 inch.

MANDAN:

Agronomy - Several windy, nasty days occurred during the week. The weather has averaged cooler. Rain threatened once or twice but none of value fell. Maximum temperature, 77°; minimum, 24°; precipitation, 0.22 inch.

Horticulture - Pruning out dead wood in orchards and seedling fruit plantings has been in progress this week. Judging from the loads of dry wood hauled away, there is apt to be little live wood left in the spring! Pruning and renovating of tree and shrubbery groups on the grounds was finished during the week. Cleaning and storing of vegetables such as onions and squash, was done in the seed house. Des Moines or Table Queen squash gave a very good yield of dry, high quality fruits. Its small size, just enough for two, cooking very quickly is another of its good points. Rooted cuttings of coleus and geraniums were potted the latter part of the week.

Arboriculture - The measuring of height growth of trees in testing blocks has been completed during the week. Seed of buffaloberry and redcedar has been collected. A start has been made in plowing nursery tree stock. Considerable difficulty is experienced in getting the tree plow into the ground and keeping it there afterwards. A few green ash seedlings pulled at random show a very extensive root system development, due in all probability, to the extremely dry growing season of this year.

ARCHER:

During the past week the weather was mild to cool and most of the time clear with some wind. The lowest temperature of the season, 21°, occurred the night of October 20. The grasses have not frozen to any extent. The cool, dry weather appears to be affecting the curing process of the fall growth that took place during September. The amount of grass for winter grazing is not up to normal, but the ranges are much improved over what they were during August. Winter wheat continues to give good prospects. Most of the corn on the rotation plots has been husked. This work delayed to some extent the construction work at the station. W.L.Quayle was a visitor October 16.

Maximum temperature, 73°; minimum, 21°; precipitation, 0.

AKRON:

Temperature dropped to 25° last night, 20th, the coldest of the fall season thus far. An appreciable coating of ice was formed on open pools of water. The week has been favorable for outside, work and good progress was made with current field work. All experimental corn was husked, and the bulk of the grain sorghums have been threshed. The forage sorgo variety experiment was hauled-in and weighed. One more week will nearly wind-up this station's experimental field work for the 1933 season.

Maximum temperature, 82°; minimum, 25°; precipitation, 0.

COLBY:

This week was rather windy and dusty. There was no precipitation. A good rain is badly needed. Much of the wheat is beginning to show that the moisture supply within reach of its roots is about gone. The corn plots which had been harvested with a binder were husked this week. The yields ranged from almost nothing on most of the fall worked plots to over 20 bushels on fallow. The quality of the grain was good, but the ears were generally small with a high percentage of nubbins.

Maximum temperature, 82°; minimum, 28°; precipitation, 0.

GARDEN CITY: (Report for the two weeks ending October 21, 1933.)

Most of the milo and some kafir on the station has been harvested during the past two weeks. Row crop land that goes to wheat was seeded on the 5th and is now up to good stands. All wheat on the station looks better at this time than it has for three years. There has been sufficient moisture in this locality to bring all wheat up within ten days to two weeks after seeding. No moisture has fallen in this section since October 6. Ground is getting somewhat dry on the surface, but there seems to be sufficient subsoil moisture to insure some growth of the wheat plant for the early part of the winter. In the extreme western part of the State and southwestern counties of Kansas moisture is still very short and some wheat is unseeded.

Maximum temperature, 84°; minimum, 34°; precipitation, 0.

HAYS:

Dry, cool weather prevails. Temperatures ranged between 27° and 83°. Wheat that germinated continues to live but is in need of a good rain. Work on the project has consisted of gathering corn from the few plots that produced any grain, mowing and cleaning thistles off uncropped plots, and collecting a few samples of soil for moisture and nitrate determinations. Work on the commercial fields has consisted largely of putting up feed crops.

TUCUMCARI:

Row crop harvest has been under way the past week, with only one day's binding left to perform. Considerable heading remains to be done on milo plots and this will be pursued next week, weather permitting. Rotation milo plots have reached full maturity, while rotation kafir plots are perhaps 95 per cent ripe. Cotton promises another fairly heavy picking in the near future. Corn has been cut and shocked, and peanuts have been dug and put in cocks. Precipitation since August 31 totals only 0.28 inch, making it impossible to seed the second date of wheat variety plots. Frost has not occurred, the continued warm weather proving of great aid over this portion of the State in permitting further maturity of late planted crops.

Maximum temperature, 84°; minimum, 37°.

DALHART:

The weather remained favorable for field work during the week. The winter wheat and winter rye rotation plots, the winter wheat variety plots, and the remainder of the increase fields with winter rye for a cover crop were seeded during the week. It is considered doubtful if all of soil seeded during the week has sufficient moisture to insure germination. However, land seeded to winter rye a week ago is showing fair stands. The milo-disease is showing a much wider distribution on the rotation plots than in previous years. A much higher percentage of dead plants are on the diseased soil this year. Milo seeded the last week of August is just starting head emergence on the most advanced plots. With a minimum temperature of 35° Friday morning, 20th, there was a noticeable light frost which was not a killing frost.

Maximum temperature, 81°; minimum, 35°; precipitation, 0.03 inch.

BIG SPRING:

Weather conditions have remained warm and dry during the past week, a condition very favorable for the opening of cotton and the maturing of feed crops. Much of the late planted feed will require two or three weeks more of this kind of weather if it is to mature. An increase block of Standard kafir was harvested, and peanuts in the rotations and varieties were dug and shocked during the week. Other work has consisted of heading milo and picking cotton. Forms were made and the concrete run for the basement at the foreman's cottage. W.H.Black, Bureau of Animal Industry, visited the station October 14.

Maximum temperature, 90°; minimum, 47°; precipitation, 0.

LAWTON: (Report for the period October 1 to 21, 1933.)

Cotton growers were favored with ideal weather the past three weeks for the harvest of the large crop that was produced. Local statistics show that about 23,000 bales have been ginned within the county to date. The proceeds of the cotton harvested and sold, together with Government checks received for cotton plowed up last summer, puts nearly $1,000,000 in the hands of Comanche County farmers. The bulk of the crop, which is of good quality, is already harvested at an unusually early date with only a minimum of weather damage. The third picking of cotton on the station was completed October 21, the earliest date on record. The harvest on rotation plots is completed, but it may be necessary to make another light picking on some of the late planting dates, the spacing test, and some of the varieties. Two rains, 0.44 inch October 14 and 0.66 inch October 19, represent all the precipitation since September 12. Early seeded wheat and barley on most farms made but little growth during this period. The combined damage of chinch bugs and dry weather

necessitates reseeding in some instances and leaves the surviving stands in many fields quite spotted. Fall and winter pasture from these crops will likely be negligible. Wheat was seeded in the rotation plots and in the variety test October 16 to 18. Preparation of the seed beds following the rain of 0.44 inch on the 14th, was completed in good shape, and the 0.66 inch of rain on the 19th should insure uniform germination and emergence. Late sown feed crops on a majority of the farms have done remarkably well and will furnish a much needed supply of livestock roughage. Only a touch of frost has been recorded in the low places, and most of the late feed remains to be cut.

WOODWARD:

The past week has shown a rapid maturity of the sorghum crops planted after the middle of July. It is hoped that they may ripen fully, although leaving them to do so will mean the loss of most of the leaves. Winter wheat planted early in September has continued to make a very healthy growth due to frequent light rains during September and October. Planting of wheat over the country still continues, so the acreage will be large, though in most cases there is little stored moisture to give hope of high yields. Due to occasional temperatures near freezing over a long period, autumn coloring of woods along the streams started early. Continued light showers have kept leaves from dropping, until at present there is a much richer and more varied display of color than usual. Station field work for the week consisted of drilling wheat on the cereal project, binding kafir and broomcorn plots, cutting and stacking alfalfa and sorghum hay, and picking cotton. Other work consisted of picking tree and shrub seeds, hauling building material, and grading roads and land. Maximum temperature, 81°; minimum, 39°; precipitation, 0.50 inch.

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BUREAU OF
PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior
consent of this division.

REPORT FOR THE PERIOD OCTOBER 22 to 31, 1933.

HAVRE: (Report for the month of October, 1933.)

All volunteer grains have made an extremely heavy growth. Even commercial fields that were cut for hay show considerable volunteer. This is in part due to heads being cut off by grasshoppers before harvest. On the plots, oats show the thickest volunteer and rye the thinnest. Russian thistles have been frozen, but the weather has remained so damp that burning has not been possible. As a result of survey work, entomologists report a heavy infestation of grasshopper eggs. Unless unfavorable conditions arise, we may expect more grasshoppers next year than there were this year. Cattle were started from the mountain pasture on the 16th and reached the station on the evening of the 17th. Station activities the past few days have been directed toward the Annual Livestock Day to be held on November 2.
October:Maximum temperature, 83°;minimum, 18°; precipitation, 0.77 inch.

JUDITH BASIN:

Pleasant fall weather continued through the month of October. During the past week the sky has been overcast much of the time with occasional sprinkles of rain. A good rain is needed to put winter wheat in better condition for the winter months. Corn fodder was weighed this week, with the lowest yields since 1919. Pastures have deteriorated rapidly the past two weeks, and where they have been heavily stocked will not furnish much more grazing. Maximum temperature, 68°; minimum, 27°; precipitation for October, 0.60 inch.

HUNTLEY:

The showers of a week ago together with some warm days this week have greatly benefited fall-sown grains. Winter wheat and rye are now well tillered and have a more healthy appearance than at any previous time this fall. On some of the plots the stands appear to be too thick as a result of volunteer plants from seed shattered at harvest time. Alfalfa and grasses have made some recovery during the week and appear to be in excellent condition to enter the winter. Improved soil moisture conditions have enabled farmers to resume fall plowing, and a number of local fields have been completed.

Maximum temperature, 76°; minimum, 25°; precipitation, 0.05 inch.

SHERIDAN:

Partly cloudy and cool weather continued over the most of the week, although the last two days were mild. Some of the fall grain has sprouted, but much of the seed still lays in dry soil. It was found that the moisture was not sufficient to be of much benefit for plowing. Some further work was done on sheds and corrals for livestock for winter shelter.

Maximum temperature, 75°; minimum, 26°; precipitation, 0.04 inch.

DICKINSON: (Report for the month of October, 1933.)

Precipitation in October amounted to .55 inch, and brought the total for 1933 up to 10.49 inches. This is only 72 per cent of normal for the first ten months of the year. Fall plowing of the rotation plots was completed early in the month, having been delayed because of the very dry condition of the soil. No fall plowing was done on farms because of the dry soil. Winter wheat and winter rye seeded during the first week in October germinated during the last half of the month, but the seedlings have not emerged. Native pastures and cultivated grasses remained dry from harvest

until the last half of October, when there was some slight growth. Trees and shrubbery matured well during the month, but they go into the winter in a weakened condition due to the dry season.

MANDAN:

Agronomy - The past week has been cold for the most part with some high wind. On the night of the 26th about an inch of snow fell, the first of the season. This was followed the next evening by a covering of sleet with some rain. The 11th Annual State Corn Show was held in Bismarck from the 26th to 28th. While the number of entries was only about half the number of the past few years, the quality of the corn shown was very good. Even the best corn growing sections of the State were dry this year. The corn was all thoroughly dry, much of it being reported dry enough to shell as it came from the field. Maximum temperature, 57°; minimum, 18°; precipitation, 0.33 inch.

Arboriculture - The pulling of shelter-belt nursery stock has been in progress during the week. Green ash and Siberian pea tree are the only species which have stock approaching normal size. Other species are extremely small, the best grades being no larger than sizes which are ordinarily discarded. All stock, however, is extremely well rooted and should cause no difficulty in establishing stands. Farmers may, however, offer objections to planting stock of so small a size.

Horticulture - Trees in the nursery and seed beds were dug and pulled during the week. A good supply of apples, crabs, gooseberries, currants, and grapes is available for horticultural cooperators, but more plums are needed. Plenty of Pyrus baccata and plum seedlings are available for lining out in the nursery next year. Grapes and raspberries were covered with soil during the week. The soil was hard and dry, making it difficult to dig. The grounds and vegetable plots were cleaned, dead wood and vegetable tops being hauled away. The soil is still very dry and fall plowing of the acre garden has been postponed in hopes of some moisture before it freezes up.

BELLE FOURCHE:

Husking of corn and hauling of corn stover and sorgo were completed. The yields of corn ranged from approximately 5 to 18 bushels an acre. The yields of sorgo exceeded the 25-year average by nearly 22 per cent. The continued lack of moisture has prevented any improvement in the stands of fall grain. Winter wheat on fallow has made a normal growth, but both winter wheat and rye that have emerged on other cultural treatments are quite backward. October precipitation, 0.38 inch.

ARCHER:

The weather was mild and dry with considerable wind, however, it was favorable for the husking of corn. Corn husking on the rotation plots was finished, and the husking of the other experiments should be completed about November 4. The yields are very small. The cement was poured for the basement onto which the old milk house is to be moved. Preparations for the moving of the old granary are in progress. Visitors included A. S.Lewellyn, new County Agent for Laramie County, and O.R.Mathews.

Maximum temperature, 75°; minimum, 25°; precipitation, 0; October precipitation, 0.

AKRON:

The week was open and favorable for field work. The remainder of the grain sorghum variety and the remainder of the date of seeding proso experiments were threshed during the week. Increase lots of corn were husked and hauled in. Station experimental crop work was completed for the year 1933.

There has been no measurable rainfall since September 11. Early seeded winter wheat is holding well. That seeded after October 1 shows spotted stands or no stands at all unless on fallow land. While there is no crying need, a good rainfall before the advent of winter would relieve considerable tension throughout this region. H.Fellows is here at present carrying on laboratory tests of possible winter wheat root diseases.

Maximum temperature, 80°; minimum, 31°; precipitation, 0.

NORTH PLATTE:

Work at the station during the past week consisted of husking variety corn on the cereal project and running nitrate determinations on some of the D.L.A. plots. The weather has been mild and with only a relatively small amount of wind. Maximum temperature,80°;minimum,28°;precipitation, 0.

COLBY:

The weather has continued dry and mostly windy, and the day temperatures have been generally warm. Volunteer barley on the plots is still growing unhindered, except by a lack of moisture in places. Moisture is badly needed. Grasshoppers are still numerous and are active during the warm part of the day. The corn plots that are husked in the field were husked this week. The yields of corn ranged from 0.5 bushel to 21.5 bushels. The corn was generally well ripened and sound, but the ears were small with a high percentage of nubbins. Maximum temperature, 83°; minimum, 29°; precipitation, 0; October precipitation, 0.30 inch.

GARDEN CITY:

We are in need of rain in this section, though the wheat from here to Dodge City looks very good. There seems to be an area about 20 miles wide along the river from Garden City to Dodge that received considerable more rain than the Southwest in general. Many fields west, further south, and in north central Kansas are very dry. Some wheat has not been seeded, other wheat seeded some time ago is hardly germinated. Grasshoppers are causing considerable damage to many wheat fields. I do not believe conditions as a whole in much of this general area are much better than last year. Quite a lot of feed was raised from our fall rains. The wheat on the project looks better than it has for three years at this time. We have had no killing frost yet. Vegetation is still green. Precipitation, 0.

HAYS:

With temperatures ranging between 26° and 78°, the weather has been generally pleasant and very favorable for all kinds of work, despite the fact that drought continues undisturbed. October has contributed only 0.03 inch of precipitation to the total for the year, which is already 8 inches below normal. The work during the week on the project consisted of threshing all the sorghums on the plots, husking corn, spreading barnyard manure and straw on the fertilizer plots, and plowing and listing numerous plots requiring such fall tillage. The ground is apparently bone dry and is difficult to turn, but it has become sort of rotten so that it breaks up nicely without any large clods such as one generally expects when the ground is so dry. The yields of kafir ranged from 0 to 27.5 bushels per acre, milo from 0 to 19.5 bushels, and corn from 0 to 10.4 bushels.

TUCUMCARI:

Harvest of crops progressed rapidly the past week, with the weather continuing dry, clear, and calm. Precipitation the past two months totals 0.28 inch, the lowest on record for this period. A large amount of plot and

increase milo has been headed, practically all other sorghums bound and shocked, all cotton plots picked, and crop from 6 acres of alfalfa left for seed has been stacked. The delay of frost has permitted nearly all sorghums to mature fully, at present there being left to bind only some eight late plots, with ten milo plots still unheaded. No threshing has been done. About 15 acres of increase milo planted at the close of June is not quite ripe, but can perhaps be headed next week. All crops promise at least average yields. Of the total of 15.41 inches precipitation this year, exactly 75 per cent fell in the period July 13 to August 31. Much of this was lost in run-off. Maximum temperature, 84°; minimum, 34°; precipitation, 0.

DALHART:

Ideal fall weather prevailed during the week. A freeze the night of the 21st actually killed no vegetation completely. The leaves on trees were uninjured, and kafir almost missed. The top leaves on corn and milo show the effect the most although they were not killed, and only approximately half of the plants of these crops show any injury. The dry soil probably prevented more complete injury. Winter rye has emerged to stands where seeded for a cover crop and on rotations where the soil was worked early and not disturbed. The late plowed and disked plots show only scattering emergence. No emergence has occurred on any of the wheat plots. Cowpeas are now blooming. The Pinto beans, seeded August 31, could now be harvested for 'green beans'. Sudan grass and corn has exhausted the available moisture.

Maximum temperature, 80°; minimum, 30°; precipitation, 0.

BIG SPRING:

Weather conditions have been almost ideal for opening cotton and maturing feed crops. Although the nights have been cool, the days have been very warm. These warm, dry days have made cotton open very fast, and have put the July-planted feed crops in a position where they will mature considerable grain. Cotton throughout the county is opening very fast and is making a good grade. The total cotton crop for this county is now estimated at about 12,000 bales as compared with a normal of 25,000 bales. Station work has consisted chiefly of heading milo and picking cotton. All cotton varieties and that in the rotations has been picked over for the second time.

Maximum temperature, 91°; minimum, 46°; precipitation, 0.

LAWTON:

Fall work is well abreast of the season, and late planted feed crops are still free from frost damage. The only unfavorable feature is the continued lack of moisture for small grains. Wheat and barley seeded on station plots October 16 to 19 emerged to good stands by the 25th, and the crop appears to be thrifty and vigorous at present. However, additional soil moisture will be necessary to carry it through the winter satisfactorily. As yet no fall pasture of any consequence is afforded by either crop. Cotton picking and ginning continues to progress rapidly throughout the southwestern part of the State. Warm and more or less windy weather the past week has hastened the opening of the late developed bolls. Fall plowing of rotation plots is in progress. The ground is quite dry, but it does not turn up in large lumps that were so characteristic a year ago and last spring when more moisture was present. By using the tractor plow, it is possible to do a pretty good job of plowing at a depth of 7½ to 8 inches. A recent trip of 160 miles in two counties west and southwest of Lawton where the cotton acreage is normally very large showed that the picking was rapidly being completed with a sufficient force of pickers in nearly every field. In most instances the yields were above the average,

and loss and damage from unfavorable weather was negligible except in localized areas. Soil moisture conditions were very favorable and many farmers were seeding small grain. In Tillmand County, near Frederick and Tipton, many fields of young alfalfa, seeded this fall, were observed to be in excellent condition. In both counties late feed crops, consisting chiefly of Feterita and Hegari, were extensively planted and unusually productive. Two rains amounting to 1.10 inches represent the October rainfall at the station and the only precipitation received during a period of about 50 days.

WOODWARD:

Wheat that was planted early has made a heavy matted growth. That which is not pastured will probably very rapidly deplete the soil moisture, which is not in great amount. Wheat planted later has had to contend with a dry surface soil and much wind whipping and has not made the growth that planted earlier has. Neither has it exhausted soil moisture to nearly the same extent and may eventually yield better. Many of the sorghum crops planted so late the past summer will mature "dry ripe", as there has been no killing frost as yet and little moisture recently. Rowed crops on the station are being allowed to stand in the hope that considerable seed will be secured from them. There will probably be great need of seed the coming spring. There would have been more money in harvesting the crops for feed. Owing to some abnormality in the season several cherry trees have come into bloom. Tomatoes are still ripening, with unusually high quality. Some of the perrenials are again coming into heavy bloom.

PENDLETON: (Report for the period October 15 to 31, 1933.)

Dry weather prevailed in October until the 27th. During the period October 27 to 31, the rainfall totaled 1.05 inches. This rainfall will provide ample moisture for fall seeding operations. Seeding on the station will start as soon as the necessary harrowing can be completed. Previous to these rains the soil was too dry for good seeding conditions. A few farmers were seeding in the dust. On the station the cereal nursery and varietal trials were seeded in the dust. All through the month of October the watering of lawns, flowers, and shrubbery was necessary. Messrs. Torgeson and Young, Oregon State College, Soils Department, were visitors on October 22.

Maximum temperature, 88°; minimum, 23°; precipitation for October, 1.10 inches.

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N O T E:

The appointment of Knowles A. Ryerson as Chief of the Bureau of Plant Industry, effective January 1, was announced November 2 by Secretary of Agriculture Henry A. Wallace.

Mr. Ryerson will succeed Dr. W. A. Taylor, who retires the first of the year after 42 years' service with the Department of Agriculture, 20 of which have been as head of the Department's largest scientific bureau. Dr. Taylor reached the retirement age on July 1, 1933, but the President granted an extension of six months at the urgent request of Secretary Wallace.

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